

10/749,361

CLAIMS

5 What is claimed is:

1. A computer program for displaying visually realistic raw radar signals comprising, a radar display fade algorithm wherein the algorithm includes alpha blending and texture mapping for producing a slow fade whereby a slow fade is rendered on a radar display
10 screen.

2. The computer program of Claim 1 further comprising:
a means for drawing returns on a radar sweep ray texture; and
a means for capturing a snapshot of a frame buffer into a texture.

3. The computer program of Claim 2 wherein the radar display fade algorithm includes a means for applying an initial alpha value.

4. A simulation system displaying visually realistic raw radar signals, the system
20 communicating with a separate process, the system communicating with a network interface and the system operating independently of any particular radar beam propagation model comprising:

a radar simulation application that further comprises a radar display fade algorithm wherein the algorithm includes alpha blending and texture mapping for
25 producing a slow fade; and

the radar simulation system being controllable externally and receiving data from the network interface for operating independently of any particular radar beam propagation model.

- 5 5. The simulation system of Claim 4 further comprising, a WINDOWS operating system, wherein the WINDOWS operating system provides the operating system for the simulation system.
- 10 6. The simulation system of Claim 4 further comprising,
a front buffer;
a back buffer; and
data transfer between the back buffer and front buffer for providing alpha blending and texture mapping off screen.
- 15 7. The simulation system of Claim 4, wherein the radar simulation application further comprises a display screen, an instrument panel depicted on the display screen and a radar screen is depicted on the display screen.
- 20 8. The simulation system of Claim 7 wherein the instrument panel is an aircraft instrument panel.
9. A simulation system for displaying visually realistic raw radar signals, the system operating independently of any particular radar beam propagation model comprising:

a radar simulation application that further comprises a radar display fade algorithm wherein the algorithm includes alpha blending and texture mapping for producing a slow fade; and
the radar simulation system being controllable for operating independently of any particular radar beam propagation model.

10. The simulation system of Claim 9 further comprising: a WINDOWS operating system, wherein the WINDOWS operating system provides the operating system for the simulation system.

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A method of displaying visually realistic raw radar signals comprising:

defining initial conditions;

clearing a back buffer;

shrinking a viewport for reducing texture size;

applying an initial alpha value

texture mapping a rendering to the back buffer with alpha blending;

copying a present display to the back buffer;

increasing a sweep angle;

drawing returns on a radar sweep ray texture; and

capturing a snapshot of the frame buffer into a texture.

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The method of Claim 12 wherein the initial conditions comprise: a sweep angle of about zero degrees, an "i" value equal to zero, and an alpha angle of about 0.980 degrees.

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The method of Claim ~~12~~¹¹ wherein the sweep angle is increased by about 0.720 degrees.

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The method of Claim ~~12~~¹¹ further comprising: a delay of about 30 milliseconds for animation delay.

Rule
126₅